If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match.
The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.
Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

8.20 Procedure for Handling and Disposal of Hazardous Waste

Text Pages 2 through 9

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approved: _____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

J. Scott

8.20 Procedure for Handling and Disposal of Hazardous Waste

1. Purpose

This procedure provides instructions for all C-A employees for the safe handling and disposal of materials, which may be harmful to the worker or the environment if improperly controlled.

It provides guidance and information to assure that hazardous wastes generated at the C-A Department facilities are managed in accordance with the following BNL Standards Based Management System (SBMS) Subject Areas:

- Hazardous Waste Management
- Mixed Waste Management
- Oil/PCB Management
- Pollution Prevention and Waste Minimization
- Transfer of Hazardous Materials Onsite
- Transportation of Hazardous Materials Offsite

2. Responsibilities

2.1 Each supervisor is responsible to ensure that employees under their purview handle, accumulate, or dispose of, hazardous waste using adequate controls and documentation, and must ensure they have appropriate training. Refer to the following SBMS Subject Areas.

- Hazardous Waste Management
- Transfer of Hazardous Materials Onsite
- Transportation of Hazardous Materials Offsite

2.2 Each employee shall minimize the amount of hazardous waste they generate by:

2.2.1 substituting nonhazardous products where possible,
2.2.2 using minimum quantities of hazardous materials during the job,
2.2.3 segregating different wastes to allow for reclamation, and
2.2.4 eliminating aerosol can use whenever possible.
2.2.5 refer to Pollution Prevention and Waste Minimization SBMS Subject Area

3. Prerequisites

3.1 C-A supervisors and employees who handle or generate hazardous waste, must be trained in hazardous waste management techniques, Radiological Controls Division (RCD) course RCRIGEN3, which shall include the content of Hazardous Waste and Mixed Waste SBMS Subject Areas. This course is available on the web at http://training.bnl.gov/.

4. Precautions

4.1 All waste must be checked to insure that it is not radioactive before this procedure is used (process knowledge is an acceptable method to verify this).

4.2 If the material is radioactive, contact Facility Support (FS) (X 4660) and the RCD representative to confirm and to assist in properly disposing of this material.

4.3 Sampling of containers and drums shall be done as per C-A-OPM-ATT 8.20.e.

4.4 In the event of a spill contact the BNL Police/Fire Rescue (x2222 or 911), the C-A RCD Representative (x5528-Pager 6206), and the C-A ESH Coordinator (x4006-Pager 631-453-5940).

4.4.1 See section 5.6 of this OPM, and SBMS Subject Area on PCB Spill Cleanup for PCB spills.

4.4.2 Small quantities of hazardous waste liquids as identified in Reference 7.1 shall not be flushed down drains. They shall be accumulated in appropriate containers at the closest satellite hazardous waste collection station as per section 5.2 of this OPM.

4.4.3 Transporting hazardous waste can only be done using Laboratory vehicles. Follow Transfer of Hazardous Materials Onsite Subject Area. Follow Hazardous Waste SBMS Subject Area on instructions for labeling, packaging, and movement of hazardous materials.

5. Procedure

5.1 General Guidelines. Refer to Hazardous Waste and Mixed Waste SBMS Subject Areas.

5.1.1 Store all hazardous materials in areas where the containers would be protected from exposure to weather.

5.1.2 Provide secondary containment as required to assure that spills or leaks do not enter drains or soil. C16370 is the stock number for secondary containment trays.

5.1.3 All containers shall be properly labeled with their original labels and red hazardous waste labels. All secondary containers shall be properly labeled. Keep containers closed when not in use.

5.1.4 Ensure that only compatible chemicals are close to each other when in storage.

5.1.5 Protect hazardous materials from theft or from use by persons not under your purview.

5.1.6 If possible, dispose of hazardous materials in their original containers, but not if they leak.

5.1.7 Take lead acid batteries to T-87 for salvage.

5.1.8 Bring motor oil from oil changes performed on site to the on-site service station.

5.1.9 Bag all aerosol cans in clear plastic bags, and separate bags into flammable, insecticides, and non-flammable for recycling by Plant Engineering.

5.1.10 Rinse and dispose of empty glass bottles, which did not contain hazardous waste in a glass recycling container.

5.2 Hazardous Waste Satellite Area (HWSA)

5.2.1 Supervisors shall determine the number and location(s) for HWSA(s) for their group in conjunction with the C-A Environmental Coordinator and the RCD Representative, or designee. A list of these HWSA's are kept by the C-A Environmental Coordinator (x7520/453-5901).

5.2.2 Locate the HWSA in areas as close to the point of generation of the waste as is practical. Provide sufficient space to permit unobstructed movement of personnel, fire protection equipment, spill control equipment. Keep aisles defined and maintained clear of obstruction. Refer to SMBS Subject Areas, " Establishing a Satellite Accumulation Area", and Operating Satellite Accumulation Area".

5.2.3 Construct the HWSA in such a way as to physically separate the waste by hazard class. Use separate containers for each waste.

5.2.4 Label and mark all containers at the HWSA according to requirements in SBMS Subject Area. Obtain labels and tags by contacting the C-A Environmental Coordinator or his designee (x7520/P-453-5901). Put the label "Hazardous Waste" on the container as soon as any waste is put into the container. Use label stock #S33826 or S33828.

5.2.5 All containers shall be kept closed at all times, except when adding or removing waste.

5.2.6 Waste oils and solvents (do not mix the two), are collected in 5-gallon or 55-gallon containers, and are sampled as per C-A-OPM-ATT 8.20.e before paperwork is completed and containers are moved to 90-Day HWT or storage area for waste management pickup.

5.2.7 Ensure that the Maximum total amount of hazardous waste at any HWSA is less than 55 gallons and less than 1 quart of acutely hazardous waste.

5.2.8 Containers that previously contained hazardous waste shall be treated as hazardous waste. This includes empty glass bottles which contained hazardous waste.

5.2.9 Waste stored at an HWSA can be stored indefinitely. Identify the start date as the date when the material is transferred to the C-A 90-Day HWT.

5.2.10 Identify all hazardous materials prior to transfer to the C-A 90-Day HWT. Unknowns will not be accepted at the HWT. Keep unknowns at the HWSA until identified.

5.2.11 HWSA's shall be inspected monthly using monthly inspection form in C-A-OPM-ATT 8.20.1.a

5.3 C-A 90-Day Hazardous Waste Trailer (HWT)

5.3.1 The C-A HWT is located in the vicinity of Building 928. Do not drop off materials and leave them unattended. Refer to SBMS Subject Areas "Establishing a 90-Day Accumulation Area", and "Operating 90-Day Accumulation Area".

5.3.2 Contact HWT Manager (x4666, 4668 - P.4271) in order to obtain access to the Waste Trailer. (Regular hours are 1500-1630 Mon, Wed, Fri.) All paperwork i.e. Hazardous Waste Control forms, and process knowledge forms, shall be filled out and signed prior to moving waste to 90-Day Area.

5.3.3 Whenever a liquid waste volume reaches full sample container as per C-A-OPM-ATT 8.20.e, bring it to the HWT. The liquids listed below are to be placed in separate containers, no mixing of liquids is permitted:

- vacuum oil
- lube oil
- non PCB transformer oil
- freon
- hydraulic oil
- solvents

5.3.4 For hazardous waste, complete the Hazardous Materials Waste Control Form and Process Knowledge Form as required. Obtain forms from the C-A Environmental Coordinator, or designee, x7520/P 453-5901.

5.3.5 Bring all solid hazardous waste to the 90-Day HWT, in accordance with Hazardous Waste Management SBMS Subject Area.

5.3.6 All non-radioactive hazardous waste that will be picked up by the Hazardous Waste Management Group will leave from the HWT. The exception is multi-drum disposal, which may be made by special arrangement with Hazardous Waste Management.

5.4 PCB Devices In Use or Storage

5.4.1 All PCB transformers, in service or held as spares, must be appropriately labeled and inventoried. They must be inspected for leaks every three months and the inspection documented in writing to the Laboratory PCB Custodian (ext. 2165).

5.4.2 PCB capacitors or other devices in service or held as spares, must be appropriately labeled and inventoried.

- Large capacitors (>200 cu. in. or > 3lbs.) must be separately identified in the inventory.

- Small capacitors (<100 cu. in. or < 3 lbs.) must to be inventoried; i.e., specifically, they must be identified in an inventory document or PCB data base.

- Capacitors >100 cu. in. and < 200 cu. in. are considered small if they weigh < 9 lbs.

- PCB capacitors must be inspected for leaks annually and the inspection documented in writing to the Laboratory PCB Custodian (ext. 2165).

5.4.3 Entrances to areas where the PCB devices are used or stored must be posted as PCB areas. A written memo describing their location must be sent to the Laboratory PCB Custodian, who will inform the Fire/Rescue Group.

5.4.4 When an area is cleared of PCB devices by disposal or relocation, the posting must be removed. A written memo describing their new location must be sent to the Laboratory PCB Custodian, who will inform the Fire/Rescue Group.

5.4.5 Devices containing PCBs may be stored at a central location under the purview of the C-A ESHQ Division Head (X 5272 [4820]). This central PCB storage location will minimize the supervisor's inspection and record keeping activities by transference of the devices to the Environmental Coordinator.

5.5 PCB Disposal

5.5.1 PCB is devices shall be disposed of using procedures in Oil/PCB Management SBMS Subject Area. A hazardous waste control form shall be completed and each device labeled with the required PCB yellow and black label.

5.5.2 PCB taken to the HWT must be bagged and labeled as PCB waste. Waste shall be in secondary containment if possible.

5.5.3 A large yellow PCB sticker shall be placed on door of HWT Trailer if PCB's are stored there.

5.5.4 PCB's have a 30-Day clock for pickup by Hazardous Waste. Ensure all paper work is handed to Hazardous Waste as soon as waste is placed in 90-Day HWT.

5.6 PCB Spills and Leaks

5.6.1 All leaks and spills from PCB containing equipment, even if completely contained indoors or on the piece of equipment, shall be reported immediately to the ESH Coordinator, or Environmental Coordinator and to Ext. 2222.

5.6.2 For spills containing PCBs in excess of 50 ppm, the following actions shall be initiated within 24 hours of discovery of the spill, refer to PCB Spill Cleanup SBMS Subject Area.

5.6.2.1 Cordon off the area, restricting access to area evidencing any visible traces plus a 3 foot buffer.

5.6.2.2 Post visible signs advising personnel to avoid the area.

5.6.2.3 Document the area of visible contamination, noting the center and extent of visible contamination.

5.6.2.4 Initiate cleanup.

5.6.2.5 Complete the Record of PCB Spill and Certification of Cleanup Initiation Form, refer to Oil/PCB Management Subject Area for form, and deliver a copy immediately to the RCD ECG.

5.6.2.6 Upon completion of cleanup, the responsible person shall complete the Record of PCB Spill and Certification of Cleanup Completion, refer to SBMS Subject Area "Oil/PCB Management" for form and submit a copy to RCD ECG. Records and the certification shall be maintained by the RCD Coordinator, or Environmental Coordinator for a period of at least 5 years.

5.7 Mixed Waste- SBMS Subject Area "Mixed Waste Management".

5.7.1 Mixed Waste shall be collected in satellite storage areas and segregated the same as Hazardous Wastes, but Physically separate from radioactive clean Hazardous Waste.

5.7.2 A green radioactive inventory form shall be maintained for each mixed waste package or container to keep, a log of all articles added to the container or bag.

5.7.3 When the package is full fill out a radioactive waste control form C-A-OPM-ATT 8.20.2.b including the chemical constitute is of the mixed waste. Label package with yellow mixed waste label and attach inventory sheet and a copy of MSDS to waste form.

5.7.4 Contact FS (x4660) and C-A Environmental Coordinator (x7520) to complete survey of container and waste characterization Hazardous Waste Personnel will pick up waste from Satellite Accumulation Area.

6. Documentation

6.1 Collection Stations

6.1.1 For wastes which are transferred to the HWT, complete the standard waste disposal forms, use tags and labels as required. Refer to SBMS Subject Area for forms or contact C-A Environmental Coordinator (x7520/P 453-5901).

6.1.2 Special forms, handling requirements and labels are required for PCB wastes. Contact the C-A Environmental Coordinator, or designee (x7520/453-5901).

7. References

7.1 SBMS Subject Area "Hazardous Waste Management".
7.2 SBMS Subject Area "Mixed Waste Management".
7.3 SBMS Subject Area "Oil/PCB Management".
7.4 SBMS Subject Area "Pollution Prevention and Waste Minimization".
7.5 C-A-OPM-ATT 8.20.1.a " C-A Department Monthly Satellite Accumulation Area Inspection Checklist".
7.6 SBMS Subject Area "Transfer of Hazardous Materials Onsite".
7.7 SBMS Subject Area "Transportation of Hazardous Materials Offsite".

8. Attachments

8.1 C-A-OPM-ATT 8.20.e, "Control of Samples and Containers".